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Cover—"Child and Family Health" is the theme of the opening section in this issue of *Public Health Reports*. The six papers in this section deal with the mental and physical health needs of children and adolescents and the special concerns of women who work during pregnancy. The cover photo, a child on the Fort Peck Reservation in northeastern Montana, is by Lucy Brown of Billings.

## New Test to Detect Spread of Breast Cancer

■ Investigators at the National Institutes of Health report progress toward devising a diagnostic test that ultimately may help pathologists diagnose the spread of even a few cancer cells from the breast to adjacent lymph nodes. With present methods, differentiating between metastatic and inflamed cells in lymph nodes sometimes is difficult.

The new method, being tested by investigators at the National Institute of Dental Research (NIDR) and the National Cancer Institute (NCI), also may prove useful in determining the source of other types of undifferentiated tumors, because the technique selects out cells originating in the mesenchyma. Since treatment differs for various kinds of cancer, new tools are needed to determine if undifferentiated tumors (whether primary or metastatic) originate in epithelial tissue or in connective tissue.

Knowledge gained by NIDR scientists doing research on collagen, the chief connective tissue protein in the body, is the basis for the new method. Collagen is being studied because it is the principal protein of mineralized tissues, it holds teeth in the jawbone, and it plays a role in wound healing and in craniofacial development. The investigators first performed basic research to identify and purify the several types of collagen. After purifying type IV (basement membrane collagen), which is made by breast cells and other epithelial cells, they obtained antibodies to the collagen by immunizing rabbits with the protein.

When cells are coated with this type of antibody and exposed to certain stains, only normal and cancerous epithelial cells fluoresce or react to the stain by changing color. The NIDR team is continuing to collaborate with Dr. Lance A. Liotta, an NCI investigator, to see if the purified antibodies of type IV collagen can be used to distinguish cancer cells of epithelial origin from tumor cells that are not of epithelial origin (fibrosarcomas and lymphomas, for example). Preliminary evidence suggests that the new method will localize epithelial cells, because only those cells synthesize detectable levels of type IV collagen.

When tissue specimens taken from patients who had undergone diagnostic breast biopsies or mastectomies were stained with antibodies to basement membrane collagen, the results for all 16 breast carcinomas studied were positive for the presence of the basement membrane, type IV collagen. Dr. Jean-Michel Foidart, a visiting associate at the NIDR, reported that all 16 specimens gave the fluorescent reaction to the antibody of type IV collagen. He pointed out that "Tissues usually fluoresced in the cytoplasm, but occasionally fluorescence occurred extracellularly. Breast cancer in situ stained prominently; in lymph node metastases, individual tumor cells or small clusters of such

cells could be distinguished clearly from surrounding lymphoid cells."

In contrast, inflammatory cells and macrophages in the lymph nodes (cells that resemble transformed cancerous cells), do not fluoresce when stained for antibody. Therefore, the antibody staining technique may prove useful in diagnosing the spread of breast cancer. Further, breast cancer cells stain only when they are treated with the type IV collagen antibodies and not when they are coated with other substances (such as rabbit anti-type I collagen antibodies, normal rabbit serum, normal goat serum, rabbit anti-ovalbumin antibodies, and rabbit anti-human IGG, IGM Kappa, and Lambda chain antibodies).

## education notes

**Regional seminar on "Infection Control Today."** A seminar in New Orleans, La., October 11-12, 1979, will include lectures and workshops on infection control as it pertains to hospital operating rooms and central services, as well as sessions devoted to more general topics in infection control. The meeting is sponsored by the Greater New Orleans Chapter of the Association for Practitioners in Infection Control (APIC) and cosponsored by Surgicot, Inc. The registration fee is \$50. For further information, contact Carol Scioneaux, RN, Infection Control, Touro Infirmary, 1401 Foucher St., New Orleans, La. 70115, telephone 504/879-8688.

**National conference on child sexual abuse.** The Children's Hospital National Medical Center, Washington, D.C., is sponsoring a conference, "Sexual Victimization of Children: Trauma, Trial, and Treatment," November 29-December 1, 1979. Fees for the conference are \$135; after October 31, \$155.

For information on reservations write Ms. Barbara Jones or Ms. Linda Jenstrom, Children's Hospital National Medical Center, 111 Michigan Ave., N.W., Washington, D.C. 20010 or call (202) 745-3028.

## publications

### FEDERAL

The Impact of Health System Changes on States' Requirements for Registered Nurses in 1985. *Health Manpower References. DHEW Publication No. (HRA) 79-8. December 1978; 112 pages.*

Prediction of Successful Nursing Performance. Part III and Part IV. *Health Manpower References. DHEW Publication No. (HRA) 79-15. 1979; 138 pages.*

Nurse Training Act of 1975. Second Report to the Congress, March 15, 1979. *Revised. DHEW Publication No. (HRA) 79-45. 1979; 187 pages.*

Special Projects for Improvement in Nurse Training. A listing. *Health Man-*

*power References. DHEW Publication No. (HRA) 78-87. August 1978; 167 pages.*

Selected Natality Characteristics for Single Live Births, United States, 1974. *DHEW Publication No. (HSA) 79-5744. 1979.*

Emergency Medical Services System as a Health Services Research Setting. *DHEW Publication No. (PHS) 79-3233. December 1978; 52 pages.*

Costs and Benefits of Electronic Fetal Monitoring: A Review of the Literature. By H. David Banta and Stephen B. Thacker. *DHEW Publication No. (PHS) 79-3245. April 1979; 31 pages.*

Family Out-of-Pocket Expenses, United

States, 1975. *DHEW Publication No. (PHS) 79-1555, Series 10, No. 127.* March 1979; 60 pages.

Physician Visits. Volume and Interval Since Last Visit, United States, 1975. *DHEW Publication No. (PHS) 79-1556, Series 10, No. 128.* April 1979; 53 pages.

PKU and the Schools. Information for Teachers, Administrators, and Other School Personnel. By Robert A. Henderson, Christine M. Trahms, and Stanley Berlow. *DHEW Publication No. (HSA) 79-5233.* 1979; 9 pages.

Sexually Transmitted Diseases. Abstracts and Bibliography, No. 2. *DHEW Publication No. (CDC) 79-8233.* 1979; 202 pages. (Formerly CLVD.)

Facts of Life and Death. *DHEW Publication No. (PHS) 79-1222.* November 1978; 47 pages.

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#### NON-FEDERAL

Technology in Hospitals: Medical Advances and Their Diffusion. By Louise B. Russell. *Studies in Social Economics.* 1979; 180 pages, paper (ISBN 0-8157-7629-2), \$11.95 cloth (ISBN 0-8157-7630-6). The Brookings Institution, 1775 Mass. Ave., NW., Washington, D.C. 20036.

Resource Trends and Population Policy: A Time for Assessment. By Lester R. Brown. *Worldwatch Paper* 29. May 1979; 55 pages; \$2. *Worldwatch*

Institute, 1776 Massachusetts Ave., NW., Washington, D.C. 20036.

Adolescent Suicide: Mental Health Challenge. By Arthur Freese. *Public Affairs Pamphlet No. 569.* April 1978; 20 pages; 50 cents. Public Affairs Pamphlets, 381 Park South, New York, N.Y. 10016.

Epidemiology in Health Care Planning. A guide to the uses of a scientific method. Edited by E. G. Knox, assisted by R. M. Acheson, D. O. Anderson, T. W. Bice, and K. L. White. Oxford University Press, 200 Madison Ave., New York, N.Y. 10016.

Stroke: A Guide for Family and Friends. By John E. Sarno and Martha Taylor. 1979; \$4.95 paperback (ISBN 0-07-054731-9), \$9.95 hardcover (ISBN 0-07-054732-7). McGraw-Hill Book Co., 1221 Avenue of the Americas, New York, N.Y. 10020.

China View. An inside look at education, health, corrections, and other social services in the People's Republic of China. Edited by Chauncey A. Alexander and Sally J. Alexander. 1979; \$6.95. National Association of Social Workers, 2 Park Ave., New York, N.Y. 10016.

Order non-Federal publication from publisher or sponsoring agency.

#### WORLD HEALTH ORGANIZATION

Safe Use of Pesticides. Third report of the WHO Expert Committee on Vector Biology and Control. *WHO Technical Report Series No. 634.* 1979; 44 pages (ISBN 92 4 120634 9); Geneva.

Photochemical Oxidants. *Environmental Health Criteria 7.* Published under the joint sponsorship of United Nations En-

vironment Programme and the World Health Organization. 1978; 111 pages; (ISBN 92 4 154067 2); Geneva.

Sulfur Oxides and Suspended Particulate Matter. *Environmental Health Criteria 8.* Published under the joint sponsorship of the United Nations Environmental Programme and the World Health Organization. 1979; 108 pages (ISBN 92 4 154068 0); Geneva.

Hospital-Acquired Infections: Guidelines to Laboratory Methods. Edited by M. T. Parker. *WHO Regional Publications European Series No. 4.* 1978; 63 pages (ISBN 92 9020 104 5); Regional Office for WHO, Copenhagen.

Nasopharyngeal Carcinoma: Etiology and Control. *IARC Scientific Publication No. 20.* Edited by G. de-Thé and Y. Ito. International Agency for Research on Cancer, Lyon. 1978; 610 pages; distributed for IARC by WHO; Geneva.

International Agency for Research on Cancer: Annual Report, 1978. Lyon. 1978; 185 pages; Geneva (also published in French).

Basic Documents. Including amendments adopted up to February 1979. Twenty-ninth edition. 1979; 164 pages; Geneva.

Handbook of Resolutions and Decisions of the World Health Organization and the Executive Board. Vol. II. Third edition (1973-1978). 26th to 31st World Health Assemblies; 51st to 62nd sessions of the Executive Board. 1979; 258 pages (ISBN 92 4 165203 9); Geneva.

WHO publications may be obtained from WHO PUBLICATIONS Centre USA, 49 Sheridan Ave., Albany, N.Y. 12210.

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